LMSC 8039773

JOINT MESSAGEFORM

SECURITY CLASSIFIC [redacted]

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

LXXIV

6595-63-526 [redacted]

LXXIV

1-2-1

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF.
VWZD

TO:

SPACE SYSTEMS DIVISION, LOSA CALIF.

SUBJ: EIGHT-HOUR FLASH REPORT, VEHICLE SLV-2/SS-01A/406/1172

1. LAUNCH SUMMARY

VEHICLE SLV-2/SS-01A/406/1172 WAS LAUNCHED ON THE FIRST ATTEMPT FROM POINT ARGUELLO LAUNCH COMPLEX 1, PAD 1, AT 1315:40.13 PST, ON 27 NOV. 1963. THIS WAS THE FIRST VEHICLE OF THIS COMBINATION TO BE LAUNCHED FROM A POINT ARGUELLO LAUNCH COMPLEX.

THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE SS-01A SATELLITE WITH PAYLOAD IN THE SPECIFIED ORBIT, WAS ACCOMPLISHED.

THE COUNTDOWN PROGRESSED SOMEWHAT SLOWER

SPECIAL INSTRUCTIONS

DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS. DOD DIR 5200.10

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DATE	TIME
27	
MONTH	YEAR
NOV	63

WRITER

SYMBOL: VWZD

TYPED NAME AND TITLE (Signature, if required)

[redacted]

PHONE 606/3172 PAGE 1 NR. OF PAGES 9

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RELEASER

SIGNATURE

TYPED (or stamped) NAME AND TITLE

6595-63-5264

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

4595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

THAN NORMAL WITH ONE HOLD IMPOSED FOR SEVEN MINUTES FOR RANGE CLEARANCE. THE ASCENT PERFORMANCE OF ALL STAGES, GROUND GUIDANCE, AND SPACE COMMUNICATIONS APPEARED TO BE SATISFACTORY; HOWEVER, AFTER INJECTION, TELEMETRY WAS NOT SWITCHED TO THE ORBITAL MODE. THE VERLORT RADAR AND GROUND GUIDANCE INDICATED THAT THE NOMINAL TRAJECTORY WAS CLOSELY FOLLOWED THROUGH INJECTION. INFORMATION OBTAINED FROM FIRST PASS ACQUISITION INDICATED THAT THE BASIC VEHICLE SUBSYSTEMS WERE FUNCTIONING SATISFACTORILY AND THAT THE ORBIT ATTAINED WAS ADEQUATE.

PERIOD:	90.1 MIN	(NOMINAL 90.21)
ECCENTRICITY:	0.0151	(NOMINAL 0.0157)
INCLINATION:	69.95 DEG	(NOMINAL 70.00)
PERIGEE:	99.1 NM	(NOMINAL 99.3)
APOGEE:	206.7 NM	(NOMINAL 212.1)

II. SIGNIFICANT EVENTS

PRELIMINARY VALUES OF SIGNIFICANT LAUNCH EVENTS REFERENCED FROM LIFTOFF AT 1315:40.13

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[redacted]

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

PST ARE:

STEERING INITIATED	92.54	SEC
STEERING END	142.47	SEC
MECO (S1)	143.93	SEC
VECO	155.00	SEC
SEPARATION COMMAND (S2)	159.43	SEC
SEPARATION COMPLETE	161.7	SEC
ULLAGE ROCKET IGNITION	163.85	SEC
SS-01A ENGINE IGNITION	166.80	SEC
SS-01A THRUST ATTAINMENT (90 PER CENT PC)	168.04	SEC
STEERING INITIATED	177.99	SEC
STEERING END	377.88	SEC
VELOCITY METER ENABLE (S-3)	379.35	SEC
SS-01A BURNOUT (VELOCITY METER CUTOFF	420.20	SEC
VTS VERLORT RADAR FADE	414	SEC
IN FLIGHT CALS START (DURATION 2.82 SEC)	434.85	SEC
VTS ACQUISITION BEACON FADE	449	SEC
VTS TELEMETRY DATA FADE (LINK 1)	453	SEC
SS-01A LINK 1 TELEMETRY FADE	478	SEC
SS-01A LINK 2 TELEMETRY FADE	478	SEC

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FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

III. SLV-2 VEHICLE PERFORMANCE

ALL VEHICLE SUBSYSTEMS PERFORMED SATISFACTORILY. MECO OCCURRED BY GUIDANCE COMMAND.

IV. COMMAND GUIDANCE

PERFORMANCE OF THE COMMAND GUIDANCE SYSTEM WAS SATISFACTORY. MECO RESULTED FROM GUIDANCE COMMAND--NOT FROM PROPELLANT DEPLETION WHICH WAS PREDICTED.

QUICK-LOOK EVALUATION OF THE TRAJECTORY VECTOR AT GUIDANCE TERMINATION PREDICTED THE FOLLOWING VALUES:

INJECTION ALTITUDE	100.809 NM	(NOM. 99.35)
INJECTION FLIGHT PATH ANGLE	0.283 DEG	(NOM. 0.00)
ORBITAL PERIOD	89.719 MIN	(NOM. 90.21)
INCLINATION ANGLE	69.989 DEG	(NOM. 70.00)

VI. SS-01A VEHICLE PERFORMANCE

ALL SS-01A VEHICLE SUBSYSTEMS PERFORMED SATISFACTORILY DURING LAUNCH TO PROVIDE ADEQUATE ORBITAL INJECTION CONDITIONS AT ENGINE SHUTDOWN, HOWEVER, THE FOLLOWING DISCREPANCIES WERE NOTED:

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JOINT MESSAGEFORM - CONTINUATION SHEET | SECURITY CLASSIFICATION [redacted]

FROM:
6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

A. ENGINE BURN DURATION WAS APPROXIMATELY 7 SEC LONGER THAN PREDICTED AS A RESULT OF LOW THRUST. CHAMBER PRESSURE DATA INDICATES THAT AVERAGE THRUST WAS APPROX 3 1/2 PERCENT BELOW PRE-FLT. PREDICTIONS. (3 SIGMA DEVIATION IS PLUS OR MINUS 3.3 PERCENT). A PARTIAL EXPLANATION FOR THE LOW THRUST LEVEL IS AN APPARENT ERROR IN TANK PRESSURIZATION PRIOR TO LIFTOFF, WHEREIN THE VEHICLE LIFTED OFF WITH TANK PRESSURES APPROX. 18-20 PSI BELOW THE INTENDED LEVELS. THE RESULTING LOW PUMP INLET PRESSURES DURING THE THRUST INTERVAL REDUCED PROPELLANT FLOW RATES AND AVERAGE THRUST WAS CORRESPONDINGLY LOW. HOWEVER, THE PROPER VELOCITY GAIN WAS OBTAINED AND SHUTDOWN OCCURRED BY VELOCITY METER COMMAND.

B. THE SWITCH OF LINK 1 TELEMETRY ASSIGNMENT FROM ASCENT TO ORBIT MODE DID NOT OCCUR AS PROGRAMMED AT THE TIME OF TELEMETRY CALIBRATE.

AT THE TIME OF TELEMETRY SIGNAL FADE AT VTS, THE SC-01A VEHICLE WAS IN A STABLE ATTITUDE, AND THE ORBITAL TIMER WAS SET AT 5412 SEC (STEP 233) IN THE RESET-ON POS. IN SIMU INC. MODE AND ALTERNATE [redacted] STATE.

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

VI. SPACE - GROUND COMMUNICATIONS

TELEMETRY DATA FROM ALL LINKS WERE SATISFACTORILY RECEIVED AND RECORDED. ALTHOUGH SOME INTERFERENCE WAS NOTED ON THE BEACON SIGNAL AND POWER MONITORS, THERE WAS NO EVIDENCE OF THE RECEPTION OF SPURIOUS COMMANDS AFTER LIFTOFF.

VII. COUNTDOWN

THE COUNTDOWN WAS INITIATED AT 0415 ON 27 NOV '63 AND PROCEEDED TO LIFTOFF WITH ONE HOLD BEING IMPOSED FROM 1248 TO 1300 PST FOR RANGE CLEARANCE DUE TO CONFLICT WITH A PREVIOUS OPERATION AT AMR. THIS WAS THE FIRST SLV-3/SS-6A VEHICLE TO BE LAUNCHED FROM PALC NO. 1. THEREFORE, SEVERAL TASKS REQUIRED MORE TIME THAN SCHEDULED.

THE FOLLOWING PROBLEMS AND DELAYS OCCURRED:

1. 1. DURING RF CHECKS (TASK 6) IT WAS NECESSARY TO ADJUST THE J-100 UMBILICAL SEVERAL TIMES IN ORDER TO SECURE A COMPLETE RF CONTACT.

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SECURITY CLASSIFICATION [redacted]

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. [redacted]ZD

VII. COUNTDOWN (CONT)

2. DURING RF CHECKS FOLLOWING GANTRY REMOVAL TWO PROBLEMS WERE ENCOUNTERED. FIRST-VTS COMMANDS WERE RECEIVED INTERMITTENTLY DUE TO APPARENTLY INADEQUATE RF SIGNAL REFLECTOR AT THE PAD. PROPER BEACON RECEPTION WAS CONFIRMED AFTER MOVING THE GANTRY TO THE VICINITY OF THE VEHICLE. SECONDLY-SPURIOUS COMMANDS WERE RECEIVED BY THE VEHICLE. AFTER A DELAY OF APPROXIMATELY 90 MIN. IT WAS DETERMINED THE PROBLEM WAS POSSIBLY DUE TO RADIATION BY AN AFS 20 RADAR BUT THIS WAS NOT CONFIRMED. IT WAS DECIDED TO INTERROGATE THE BEACON BY USE OF A MAST ANTENNA UNTIL LIFTOFF WHEN THERE WAS AN AUTOMATIC SWITCH TO THE VEHICLE ANTENNA.

3. DURING SS-9IA TANKING, A SLIGHT LEAK OCCURRED IN THE LMSC (AGE) FUEL SNIFFER. LEAKAGE WAS NOT SUFFICIENT TO WARRANT DE[redacted] TO MAKE REPAIRS.

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FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALI[redacted] VWLD

VII. COUNTDOWN (CONT)

4. DURING SS-SA PRESSURIZATION, ONE CONSOLE IN THE BLOCKHOUSE LOST FACILITY POWER. OPERATION WAS RESTORED BY RESETTING A CIRCUIT BREAKER AND NO DELAY WAS CAUSED.

VIII. AEROSPACE GROUND EQUIPMENT

IN GENERAL, THE AGE SATISFACTORILY SUPPORTED THE CHECKOUT AND LAUNCH OF THE VEHICLE EXCEPT FOR THE FOLLOWING:

A. THE RF REFLECTOR ARRANGEMENT ON THE PAD WAS INADEQUATE IN THAT THE VIS COMMANDS TO THE SS-SA WERE RECEIVED INTERMITTENTLY.

B. A SLIGHT LEAK OCCURRED IN AN LMSC FUEL SHUTTLE LINE.

C. FACILITY POWER TO ONE BLOCKHOUSE CONSOLE WAS TEMPORARILY INTERRUPTED.

D. THE LMSC J-100 UMBILICAL DID NOT MATE PROPERLY WITH THE VEHICLE RECEPTACLE.

E. A GANTRY PLATFORM COULD NOT BE RAISED BY THE INTENDED METHOD AND AN ALTERNATE METHOD WAS UTILIZED.

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FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

IX. PAD DAMAGE

PRELIMINARY EVALUATION REVEALS SLIGHT PAD DAMAGE. THE DAC PLUG CARRIER UMBILICAL AND THE LAUNCHER LEGS WERE DAMAGED MORE THAN ANTICIPATED. PAD RECOVERY SCHEDULE CAN BE MAINTAINED.

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